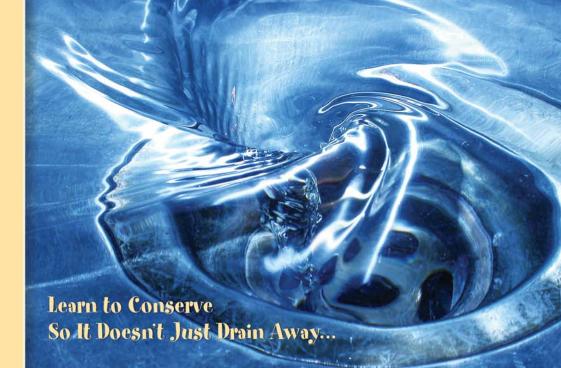


East Orange County Water District

— 2015— Water Quality — Report—





Your 2015 Water Quality Report

Since 1990, California public water utilities have been providing an annual Water Quality Report to their customers. **This year's report covers calendar year 2014 drinking water quality testing and reporting.**

The East Orange County Water District (EOCWD) vigilantly safeguards its water supply and, as in years past, the water delivered to your home meets the quality standards required by federal and state regulatory agencies. The U.S. Environmental Protection Agency (USEPA) and the State Water Resources

Control Board, Division of Drinking Water (DDW) are the agencies responsible for establishing and enforcing drinking water quality standards.

In some cases, EOCWD goes beyond what is required by testing for unregulated chemicals that may have known health risks but do not have drinking water standards. For example, the Orange County Water

District (OCWD), which manages the groundwater basin, and the Metropolitan Water District of Southern California (MWDSC), which supplies treated imported surface water to EOCWD, test for unregulated chemicals in our water supply. Unregulated chemical monitoring helps USEPA and DDW determine where certain chemicals occur and whether new standards need to be established for those chemicals to protect public health.

Through drinking water quality testing programs carried out by OCWD for groundwater, MWDSC for treated surface water and EOCWD for the water distribution system, your drinking water is constantly monitored from source to tap

for regulated and unregulated constituents.

The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Some of our data, though representative, are more than one year old.



The Quality of Your Water is Our Primary Concern

Sources of Supply

Orange County's water supplies are a blend of groundwater managed by the OCWD and water imported from Northern California and the Colorado River by the Municipal Water District of Orange County (MWDOC) via MWDSC. Groundwater comes from a natural underground aquifer that is replenished with water from the Santa Ana River, local rainfall and imported water. The groundwater basin covers 350 square miles and lies beneath north and central Orange County from Irvine to the Los Angeles County border and from Yorba Linda to the Pacific Ocean. More than 20 cities and retail water districts draw from the basin to provide water to homes and businesses. In south Orange County, nearly 100 percent of the water is imported and delivered to the cities and retail water districts, where it is stored in above-ground reservoirs and tanks before being sent to homes and businesses. In 2014, East Orange County Water District imported 15% surface water while 85% was local groundwater.





also come from gasoline stations, urban stormwater runoff, agricultural application and septic systems.

In order to ensure that tap water is safe to drink, USEPA and the DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DDW regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at (800) 426-4791.

Immuno-Compromised People

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised people, such as those with cancer who are

undergoing chemotherapy, persons who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

Orange County's Water Future

For years, Orange County has enjoyed an abundant, seemingly endless supply of high-quality water. However, as water demand continues to increase statewide, we must be even more conscientious about our water supply and maximize the efficient use of this precious natural resource.

OCWD and MWDOC work cooperatively to evaluate new and innovative water management and supply development programs, including water reuse and recycling, wetlands expansion, recharge facility construction, ocean and brackish water desalination, surface storage and water use efficiency programs. These efforts are helping to enhance long-term countywide water reliability and water quality.

A healthy water future for Orange County rests on finding and developing new water supplies, as well as protecting and improving the quality of the water that we have today. Your local and regional water agencies are committed to making the necessary investments today in new water management projects to ensure an abundant and high-quality water supply for our future.

Basic Information About Drinking Water Contaminants

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of land or through the layers of the ground it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animal and human activity.

Contaminants that may be present in source water include:

- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming.
- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production or mining activities.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can

Conservation Tips for Inside Your Home

Collect water used to wash fruits and vegetables

Use it to water your houseplants

Don't run water to thaw food: **Defrost in the refrigerator**

Install aerators on the kitchen faucet

Reduce flow to less than 1 gallon per minute

Wash only full loads of laundry and dishes: **Saves up to 50 gallons per week**

Install low-flow shower heads: Saves 2.5 gallons per shower

Plug the sink instead of running water to rinse your razor Saves up to 300 gallons a month

Buy water-saving devices like high-efficiency toilets and clothes washers. You'll save gallons of water per day, and many of these items are eligible for rebates. To learn more, visit:

www.ocwatersmart.com.

Talk to your family and friends about saving water.

If everyone does a little, we all benefit a lot.



Questions about your water? Contact us for answers.

For information about this report, or your water quality in general, please contact Jerry Mendzer at (714) 538-5815.

The EOCWD Board of Directors meets on the 3rd Thursday of each month at 5:00 p.m. Meetings are held at 185 N. McPherson Road, Orange.

For more information about the health effects of the listed contaminants in the following tables, call the USEPA hotline at (800) 426-4791.

Important Information the EPA Would Like You to Know

Issues in Water Quality that Could Affect Your Health

Chloramines

EOCWD imports water from MWDSC and produces water using chloramines, a combination of chlorine and ammonia, as its drinking water disinfectant. Chloramines are effective killers of bacteria and other microorganisms

that may cause disease.

Chloramines form fewer disinfection byproducts and have no odor when used properly. People who use kidney dialysis machines may want to take special precautions and consult their physician for the appropriate type of water treatment. Customers who maintain fish ponds, tanks or aquaria should also

make necessary adjustments in water quality treatment, as these disinfectants are toxic to fish.

For further information or if you have any questions about chloramines please visit www.eocwd.com or call (714) 538-5815.

Cryptosporidium

Cryptosporidium is a microscopic organism that, when ingested, can cause diarrhea, fever, and other gastrointestinal symptoms. The organism comes

What are Water Quality Standards?

Drinking water standards established by USEPA and DDW set limits for substances that may affect consumer health or aesthetic qualities of drinking water. The chart in this report shows the following types of water quality standards:

- Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible.
- Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- Secondary MCLs: Set to protect the odor, taste, and appearance of drinking water.
- Primary Drinking Water Standard: MCLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.
- Regulatory Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

How are Contaminants Measured?

Water is sampled and tested throughout the year. Contaminants are measured in:

- parts per million (ppm) or milligrams per liter (mg/L)
- parts per billion (ppb) or micrograms per liter (µg/L)
- parts per trillion (ppt) or nanograms per liter (ng/L)

What is a Water Quality Goal?

In addition to mandatory water quality standards, USEPA and DDW have set voluntary water quality goals for some contaminants. Water quality goals are often set at such low levels that they are not achievable in practice and are not directly measurable. Nevertheless, these goals provide useful guideposts and direction for water management practices. The chart in this report includes three types of water quality goals:

- Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by USEPA.
- Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

from animal and/or human wastes and may be in surface water. MWDSC tested their source water and treated surface water for *Cryptosporidium* in 2014 but did not detect it. If it ever is detected, *Cryptosporidium* is eliminated by an effective treatment combination including

sedimentation, filtration and disinfection.

The USEPA and the federal Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from USEPA's Safe Drinking Water Hotline at (800) 426-4791 between 10 a.m. and 4 p.m. Eastern Time (7 a.m. to 1 p.m. in California).

Disinfectants and Disinfection Byproducts

Disinfection of drinking water was one of the major public health advances in the 20th century. Disinfection was a major factor in reducing waterborne disease epidemics caused by pathogenic bacteria and viruses,

and it remains an essential part of drinking water treatment today.

Chlorine disinfection has almost completely eliminated from our lives the risks of microbial waterborne diseases. Chlorine is added to your drinking water at the source of supply (groundwater well or surface water treatment plant). Enough chlorine is added so that it does not completely dissipate through the distribution system pipes. This "residual" chlorine helps to prevent the growth of bacteria in the pipes that carry drinking water from the source into your home.

However, chlorine can react with naturally-occurring materials in the water to form unintended chemical byproducts, called disinfection byproducts (DBPs), which may pose health risks. A major challenge is how to balance the risks from microbial pathogens and DBPs. It is important to provide protection from these microbial pathogens while simultaneously ensuring decreasing health risks from DBPs. The Safe Drinking Water Act requires USEPA to develop rules to achieve these goals.

Trihalomethanes (THMs) and Haloacetic Acids

2014 East Orange County Water District Drinking Water Quality Local Groundwater and Metropolitan Water District Treated Surface Water

Chemical	MCL	(MCLG)	Avg. Groundwater Amount	MWD Amount	Detections	Violation?	Typical Source of Contaminant	
Radiologicals – Tested in 2014								
Alpha Radiation (pCi/L)	15	(0)	ND	ND	ND – 4	No	Erosion of natural deposits	
Beta Radiation (pCi/L)	50	(0)	NR	5	4 – 6	No	Decay of man-made or natural deposits	
Uranium (pCi/L)	20	0.43	ND	3	ND - 3	No	Erosion of natural deposits	
Inorganic Chemicals – Tested in 2012 and 2014								
Aluminum (ppm)	1	0.6	ND	0.17	ND - 0.31	No	Treatment Process Residue, Natural Deposits	
Barium (ppm)	1	2	ND	0.11	ND - 0.11	No	Refinery Discharge, Runoff or Leaching from Natural Deposits	
Fluoride (ppm) naturally-occurring	2	1	0.12	NR	0.12	No	Erosion of Natural Deposits	
Fluoride (ppm) treatment-related	Control Range Optimal Lev		pm NR	0.8	0.7 – 1	No	Water Additive for Dental Health	
Nitrate as NO ₃ (ppm)	45	45	16	ND	ND - 18	No	Agriculture Runoff and Sewage	
Nitrate and Nitrite as N (ppm)	10	10	3.6	ND	ND - 4	No	Agriculture Runoff and Sewage	
Secondary Standards* – Te	sted in 2012 a	and 2014						
Aluminum (ppb)	200*	600	ND	170	ND - 310	No	Treatment Process Residue, Natural Deposits	
Chloride (ppm)	500*	n/a	110	90	87 – 110	No	Runoff or Leaching from Natural Deposits	
Color (color units)	15*	n/a	ND	1	ND - 1	No	Naturally-occurring Organic Materials	
Iron (ppb)	300*	n/a	100	ND	ND - 100	No	Runoff or leaching from natural deposits; industrial wastes	
Odor (odor units)	3*	n/a	ND	1	ND - 1	No	Naturally-occurring Organic Materials	
Specific Conductance (µmho/cm)	1,600*	n/a	960	980	960 - 1,000	No	Substances that form lons in Water	
Sulfate (ppm)	500*	n/a	140	230	140 - 240	No	Runoff or Leaching from Natural Deposits	
Total Dissolved Solids (ppm)	1,000*	n/a	600	630	600 - 650	No	Runoff or Leaching from Natural Deposits	
Turbidity (NTU)	5*	n/a	0.4	ND	ND - 0.4	No	Runoff or Leaching from Natural Deposits	
Unregulated Chemicals – Tested in 2012, 2013 and 2014								
Alkalinity (ppm)	Not Regulated	n/a	190	120	120 - 190	n/a	Runoff or Leaching from Natural Deposits	
Boron (ppm)	NL = 1	n/a	0.13	0.1	0.10 - 0.13	n/a	Runoff or Leaching from Natural Deposits	
Calcium (ppm)	Not Regulated	n/a	100	72	70 – 100	n/a	Runoff or Leaching from Natural Deposits	
Hardness, total (ppm)	Not Regulated	n/a	360	290	280 - 360	n/a	Runoff or Leaching from Natural Deposits	
Hardness, total (grains/gal)	Not Regulated	n/a	21	17	16 – 21	n/a	Runoff or Leaching from Natural Deposits	
Magnesium (ppm)	Not Regulated	n/a	25	26	25 – 27	n/a	Runoff or Leaching from Natural Deposits	
pH (pH units)	Not Regulated	n/a	7.9	8.1	7.9 – 8.1	n/a	Hydrogen Ion Concentration	
Potassium (ppm)	Not Regulated	n/a	2.5	4.6	2.5 – 4.8	n/a	Runoff or Leaching from Natural Deposits	
Sodium (ppm)	Not Regulated	n/a	62	94	62 – 99	n/a	Runoff or Leaching from Natural Deposits	
Total Organic Carbon (ppm)	TT	n/a	0.39	2.6	0.39 - 2.9	n/a	Various Natural and Man-made Sources	
ppb = parts-per-billion; ppm = parts-per-million; pCi/L = picoCuries per liter; NTU = nephelometric turbidity units; µmho/cm = micromhos per centimeter;								

ppb = parts-per-billion; ppm = parts-per-million; pCi/L = picoCuries per liter; NTU = nephelometric turbidity units; µmho/cm = micromhos per centimeter; NR = Not Required to be analyzed; ND = not detected; < = average is less than the detection limit for reporting purposes; MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal; PHG = California Public Health Goal; NL = Notification Level; n/a = not applicable; TT = treatment technique *Contaminant is*

Turbidity – combined filter effluent Metropolitan Water District Diemer Filtration Plant	Treatment Technique	Turbidity Measurements	TT Violation?	Typical Source of Contaminant
1) Highest single turbidity measurement	0.3 NTU	0.06	No	Soil run-off
2) Percentage of samples less than 0.3 NTU	95%	100%	No	Soil run-off

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms.

Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TI).

A treatment technique is a required process intended to reduce the level of contaminants in drinking water that are difficult and sometimes impossible to measure directly.

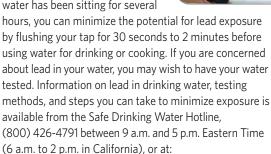
(HAAs) are the most common and most studied DBPs found in drinking water treated with chlorine. In 1979, the USEPA set the maximum amount of total THMs allowed in drinking water at 100 parts per billion as an annual running average. Effective in January 2002, the Stage 1 Disinfectants / Disinfection Byproducts Rule lowered the total THM maximum annual average level to 80 parts per billion and added HAAs to the list of regulated chemicals in drinking water. Your drinking water complies with the Stage 1 Disinfectants / Disinfection Byproducts Rule.

Stage 2 of the regulation was finalized by USEPA in 2006, which further controls allowable levels of DBPs in drinking water without compromising disinfection itself. A required distribution system evaluation was completed in 2008 and a Stage 2 monitoring plan has been approved by DDW. Full Stage 2 compliance began in 2012.

About Lead in Tap Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from

materials and components associated with service lines and home plumbing. East Orange County Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several



 $http:/\!/water.epa.gov/drink/info/lead/index.cfm.$

Drinking Water Fluoridation

Fluoride has been added to U.S. drinking water supplies since 1945. Of the 50 largest cities in the U.S.,

Conservation Tips for Outside Your Home

Check your sprinkler system for leaks, overspray and broken sprinkler heads and repair promptly: **Saves up to 500 gallons per month**

Install a smart sprinkler controller that adjusts watering based on weather, soil type, amount of shade and plant type Saves up to 40 gallons per day

Use a broom instead of a hose to clean drives and sidewalks

Saves up to 150 gallons each time

Additional water saving steps and devices are also available, and some of these are eligible for substantial rebates. Consider replacing your lawn with drought tolerant plants, synthetic turf, or permeable hardscape. Or add rotating sprinkler nozzles, a weather-based controller, or a drip line to enhance your automated irrigation system. And mulch. Hundreds of gallons a year can be saved by simply using organic mulch around plants to reduce evaporation.



43 fluoridate their drinking water. In December 2007, MWDSC joined a majority of the nation's public water suppliers in adding fluoride to drinking water in order to

prevent tooth decay. In line with recommendations from the DDW, as well as the U.S. Centers for Disease Control and Prevention, MWDSC adjusted the natural fluoride level in imported treated water from the Colorado River and State Project water to the optimal range for dental health of 0.7 to 1.3 parts per million. Our local water is not supplemented with fluoride. Fluoride levels in drinking

water are limited under California state regulations at a maximum dosage of 2 parts per million.

There are many places to go for additional information about the fluoridation of drinking water:

U.S. Centers for Disease Control and Prevention

1(800) 232-4636 • www.cdc.gov/fluoridation/

State Water Resources Control Board, Division of Drinking Water

www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml

For more information about the MWDSC's fluoridation program, please contact Edgar G. Dymally at (213) 217-5709 or at edymally@mwdh2o.com.

2014 East Orange County Water District Distribution System Water Quality

		_			
Disinfection Byproducts	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Total Trihalomethanes (ppb)	80	25	0.9 - 32	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb)	60	10	ND - 15	No	Byproducts of Chlorine Disinfection
Chlorine Residual (ppm)	(4 / 4)	1.1	0.5 – 2.1	No	Disinfectant Added for Treatment
Aesthetic Quality					
Color (color units)	15*	0.06	ND - 1	No	Erosion of Natural Deposits
Turbidity (NTU)	5*	0.1	ND - 0.3	No	Erosion of Natural Deposits

Two locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids; one location is tested monthly for color, odor and turbidity

Odor was not detected in any sample in 2014. MRDL = Maximum Residual Disinfectant Level; MRDLG = Maximum Residual Disinfectant Level Goa *Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

Bacterial Quality	MCL	MCLG	Highest Monthly Positive Samples	MCL Violation?	Typical Source of Contaminant
Total Coliform Bacteria	1	0	1	No	Naturally Present in the Environment

No more than 1 monthly sample may be positive for total coliform bacteria.

Lead and Copper Action Levels at Residential Taps

	Action Level (AL)	Health Goal	90 th Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation?	Typical Source of Contaminant
Lead (ppb)	15	0.2	ND	0 / 21	No	Corrosion of Household Plumbing
Copper (ppm)	13	0.3	0.068	0 / 21	No	Corrosion of Household Plumbing

Twenty-one residences were tested for lead and copper at-the-tap during 2012.

Lead was not detected in any sample. Copper was detected in five samples but none exceeded the action level. The regulatory action level is the concentration of lead or copper which, if exceeded in more than ten percent of the homes tested,

The regulatory action level is the concentration of lead or copper which, if exceeded in more than ten percent of the homes te triggers treatment or other requirements that a water system must follow.



Want Additional Information?

There's a wealth of information on the internet about Drinking Water Quality and water issues in general.

A good place to begin your own research is the East Orange County Water District website:

www.eocwd.com

In addition to extensive information about your local water and the support and services we offer, you'll find links for many other local, statewide, and national resources.

Source Water Assessments

Imported (MWDSC) Water Assessment

Every five years, MWDSC is required by DDW to examine possible sources of drinking water contamination in its State Water Project and Colorado River source waters.

In 2012, MWDSC submitted to DDW its updated Watershed Sanitary Surveys for the Colorado River and State Water Project, which include suggestions for how to better protect these source waters. Both source waters are exposed to stormwater runoff, recreational activities, wastewater discharges, wildlife, fires, and other watershed-related factors that could affect water quality.

Water from the Colorado River is considered to be most vulnerable to contamination from recreation, urban/stormwater runoff, increasing urbanization in the watershed, and wastewater. Water supplies from Northern California's State Water Project are most vulnerable to contamination from urban/stormwater runoff, wildlife, agriculture, recreation, and wastewater.

USEPA also requires MWDSC to complete one Source Water Assessment (SWA) that utilizes information collected in the watershed sanitary surveys. MWDSC completed its

SWA in December 2002. The SWA is used to evaluate the vulnerability of water sources to contamination and helps determine whether more protective measures are needed.

A copy of the most recent summary of either Watershed Sanitary Survey or the SWA can be obtained by calling MWDSC at (213) 217-6850.

Groundwater Assessment

An assessment of the drinking water sources for EOCWD was completed in December 2002. The ground-water sources are considered most vulnerable to the following activities associated with nitrates detected in the water supply: historic waste dumps/landfills, and past agricultural activities and application of fertilizers. The groundwater sources are considered most vulnerable to the following activities not associated with detected contaminants: dry cleaners and gas stations.

A copy of the complete assessment is available at SWRCB, Division of Drinking Water, 605 W. Santa Ana Blvd., Building 28, Room 325, Santa Ana, CA 92701. You may request a summary of the assessment by contacting Jerry Mendzer at EOCWD, (714) 538-5815.

The Need to Conserve has Never Been Greater

As California enters its fourth year of drought, water conservation has become vitally important for us all. There are many areas within our homes where we can save water, particularly outdoors, where our gardens and lawns receive almost 60% of all the water



we use. To learn more about the drought, or to find useful tips for how to conserve water, visit:

www.SaveOurWater.com or www.BeWaterWise.com

To learn about programs and devices that can help save water, along with information on rebates for these water saving resources, visit:

www.OCWaterSmart.com



East Orange County Water District

185 North McPherson Road Orange, California 92869



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PRINTED WITH SOYINK

This report contains important information about your drinking water.

Translate it, or speak with someone who understands it.

Este informe contiene información muy importante sobre su agua potable. Para mas información ó traducción, favor de contactar a Customer Service Representative. Telefono: (714) 538-5815. Bản báo cáo có ghi những chi tiết quan trọng về phẩm chất nước trong cộng dồng quý vị. Hãy nhờ người thông dịch, hoặc hỏi một người bạn biết rõ về vấn đề này.

يحتوي هذا التقرير على معلومات هامة عن نوعية ماء الشرب في منطقتك، يرجى ترجمته، أو ابحث التقرير مع صديق لك يفهم هذه المعلومات حدداً. 这份报告中有些重要的信息, 讲到关于您所在社区的水的品质。请您找人翻译一下,或者 请能看得懂这份报告的朋友给 您解释一下。 이 보고서에는 귀하가 거주하는 지역의 수질에 관한 중요한 정보 가 들어 있습니다. 이것을 변역 하거나 충분히 이해하시는 친구 와 상의하십시오. この資料には、あなたの飲料水 についての大切な情報が書かれ ています。内容をよく理解する ために、日本語に翻訳して読む か説明を受けてください。